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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/985,709

Applicant(s)

WILSON, RICHARD A.

Examiner

KAMAL B. DIVECHA

Art Unit

2151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39, 44, 45 and 53-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39, 44, 45 and 53-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Claims 1-39, 44, 45, 53-58 are pending in this application.

Claims 40-43 and 46-52 were previously cancelled.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed on 5/30/2008 in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/30/2008 has been entered.

Response to Arguments

Applicant's arguments with respect to claims above have been fully considered but are moot in view of the new ground(s) of rejection.

Also, in view of the applicant statement,

“The instant application and Niwa '098 were, at the time the invention of the instant application was made, owned by Canon Kabushiki Kaisha”,

The NIWA '098 has been excluded in view of 103(c).

However, all prior responses in view of Touboul and Hirai still apply and are herein incorporated by reference to previous office action mailed on 12/31/07.

Further, in response filed, applicant argues that "the office action continues to take the position that there is no...applicant continues to believe that such a position is technologically...such that art from the two **cannot be combined easily** and certainly would not have been apparent to those of ordinary skill", e.g. remarks, pg. 24-25.

In response to applicant's argument, Examiner disagrees in view of the followings:

"The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art." In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). See also In re Sneed, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983) ("[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review."); and In re Nievelt, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973) ("Combining the teachings of references does not involve an ability to combine their specific structures.") MPEP 2145 (III).

Moreover, the combination of Touboul, Hirai and Sato discloses the general concepts of executing function modules in network multifunction devices, deleting the function modules and retrieving deleted function modules over the network so as to reconfigure the multifunction devices, all in response to an increase or decrease in demand for hardware resources of the MFP device, as set forth in the prima facie case of obviousness.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claim 56 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 56 recites:

An apparatus for...said apparatus comprising:
determining means...
first reconfiguring means...
second reconfiguring means...

Initially, the claim fails to fall into any of the four enumerated category of the patentable statutory subject matter as set forth above for the at least following reasons:

Although the claim recites the term “apparatus”, the claim actually lacks the necessary physical articles/objects/elements/components to constitute an apparatus, a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter.

“The means” as in the claim can be implemented via software, code(s), program and/or algorithm, e.g. See specification, pg. 14 L10-22, pg. 15 L22-30: software components for implementing the present invention, pg. 16 L28 to pg. 17 L7: figure 6 is a block diagram which depicts the interrelationships between the key software modules, pg. 17 L8 to pg. 18 L30, thus, resulting in a software per se claim.

As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se* and/or software *per se*.

[Descriptive material can be characterized as either “functional descriptive material” or “nonfunctional descriptive material.” Both types of “descriptive material” are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994).

Merely claiming nonfunctional descriptive material, i.e., abstract ideas stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make the claim statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because “[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer”).]

See MPEP § 2106 (IV) for more on compliance with 35 U.S.C. 101.

Further, there is no suggestion in the claim that the claim is directed towards a general and/or special purpose computer.

Note: A computer readable memory medium as in claims 57-58 includes, for example, hard disk (spec., pg. 12 lines 19-20, pg. 14 lines 10-15).

The 35 USC 101 rejection presented in the previous office action with respect to claim 55 is withdrawn due to inclusion of the storage unit.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 8, 10-11, 13-14, 17, 22-32, 35-36, 53, 55 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Touboul (U. S. Patent No. 6,125,390) in view of Hirai (US 6,546,484 B2), and further in view of Sato (US 2003/0033395 A1).

As per claim 1, Touboul explicitly discloses a method for managing a network device on a network, each network device having a network interface for communication on the network, and each network device further having a plurality of hardware resources including a storage memory for storing a plurality of function modules, a program memory for use by the function modules and a processor for executing each of the function modules (fig. 1: shows the network with plurality of network devices; fig. 2: shows one embodiment of a network device; and col. 6 L1-17), said method comprising the steps of:

- detecting a reconfiguration event for one of the plurality of network devices wherein the reconfiguration event is triggered by an increase or a decrease in demand for hardware resources of said network device and wherein said reconfiguration event is detected over the network (fig. 1: agent 14 triggers the event internally and sends the event data over the network, col. 2 L40-56, col. 4 L30-56 and col. 7 L40-49);

- sending a reconfiguration command to the one network device from an information processing apparatus on the network to one of the plurality of network devices corresponding to

the reconfiguration event in case that the reconfiguration event is detected in the detecting step in response to the increase demand for the hardware resources (col. 10 L30-40, col. 10 L40-48 and col. 15 L35-39) (col. 5 L11-13, col. 8 L10 to col. 9 L30: too many filed open logically conveys the increased usage of the hardware resources, col. 9 L40 to col. 10 L1) and sending a second reconfiguration command including a download command to download, i.e. retrieve a software (i.e. function) module by sending the software module from the information processing apparatus to the multifunction network device via the network, wherein the second reconfiguration command including the retrieval command is sent over the network to one of the plurality of multifunction network devices corresponding to the reconfiguration event (col. 8 L10 to col. 9 L30);

reconfiguring one of the plurality of multifunction network devices by downloading the software module in the first reconfiguring step from the information processing apparatus on the network in accordance with the second reconfiguration command and executing the downloaded, i.e. retrieved, function module by said one network device so as to control the device using the hardware resources (col. 8 L10 to col. 9 L30: in this case downloading a file or software module).

However, Touboul does not disclose the process wherein the network devices are multifunction network device having scanning and printing capabilities controlled by function (software) modules, the process of execution of the plurality of function modules by the MFP using the hardware resources so as to control the scanning and printing capabilities and the process of sending a deletion command to delete at least one of the software modules, wherein the first reconfiguration command including the delete command is sent over the network and

download command in order to download the software module in response to the increase/decrease of the demand for the hardware resources from the software modules and reconfiguring the multifunction device by deleting and downloading the software modules.

Hirai explicitly discloses the process of deleting and/or downloading the software modules based on the usage of the hardware resources, wherein the commands are sent over the network from the management program running on the external ROM, i.e. network (fig. 5, fig. 8, fig. 12, col. 3 L36 to col. 4 L65, col. 7 L20-33: deleting unnecessary program files and/or downloading only the specific software module, col. 9 L56 to col. 10 L64: management program on the external ROM).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view in view of Hirai in order to delete the software modules based on the usage of the hardware resources of the network device.

One of ordinary skilled in the art would have been motivated because it would have improved the performance of the multifunction network device by managing and utilizing the capacity of the program modules and the capacity of the program memory more efficiently (Hirai, col. 3 L25-35, col. 2 L21-32).

However, Touboul in view of Hirai does not disclose the process wherein the network device is a multifunction network device with scanning and printing capabilities and the process of execution of the function modules by the MFP using the hardware resources so as to control the scanning and printing capabilities (i.e. applicant specification defines a multifunction network as a combination of fax/scanner/printer, see pg. 1 lines 5-16).

Sato explicitly discloses a network of multifunction network devices, more specifically an imaging devices (the combination of fax/scanner/printer) having plurality of hardware resources including a storage memory for storing a plurality of function modules (i.e. programs), which includes a function module for controlling a printer (i.e. a print software or driver) and a function module for controlling a scanner (i.e. s scanning software, program or driver), a program memory and a processor (fig. 1 item #10, 20, 30, pg. 1 [0005-0006]); the process of execution of the plurality of function modules by the MFP using the hardware resources so as to control the scanning and printing capabilities (pg. 2 [0022-0023]).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Hirai, and further in view of Sato (the modification will be referred to as Touboul from herein on) in order to manage a network of plurality of multifunction network devices such as digital copiers, imaging devices, etc.

One of ordinary skilled in the art would have been motivated because it would have offered increased flexibility in handling of problems that occur at the network devices (Touboul, col. 1 L55-65).

As per claim 2, Touboul discloses the process wherein the reconfiguration event is a request for execution of one of the plurality of function modules by the one multifunction network device (col. 2 L20-45, col. 6 L54-61, col. 8 L43-52).

As per claim 3, Touboul discloses the process wherein the reconfiguration event is a trigger set by a configurator module executing in a computing device on the network (col. 2 L20-65, col. 4 L30-55, col. 5 L1-28, col. 10 L58 to col. 11 L20).

As per claim 4, Touboul discloses the process wherein the trigger is set in response to detection by the configurator module of an increased demand for use of the storage memory and of the program memory in the one multifunction network device (col. 8 L27 to col. 9 L67: too many files open indicates the increased demand for the memory).

As per claim 8, Touboul discloses the process wherein the trigger is set by the configuration module based on receipt of a request message by the configuration module from the one multifunction network device (col. 8 L44 to col. 9 L67, fig. 1 and col. 7 L40-49).

As per claim 10, Touboul discloses the process wherein the request message is passed in an SNMP message from the one multifunction network device to the configuration module (fig. 1, fig. 12 and col. 10 L19-29).

As per claim 11, Touboul discloses the process of monitoring an overall demand for execution of each of the plurality of functions by the plurality of multifunction network devices, and the trigger is set by the configuration module based on a detected increase in the overall demand for execution of one of the plurality of functions (col. 7 L40-50 and col. 8 L10 to col. 9 L67).

As per claim 13, Touboul discloses the process wherein the one multifunction network device is reconfigured in accordance with the reconfiguration command by deleting at least one of the function modules from the storage memory (col. 15 L25-39: please note that the process of updating inherently deletes a file).

As per claim 17, Touboul discloses the process wherein the reconfiguration command is selected from an addition command to add a designated function module to the storage memory and the program memory of the one multifunction network device (col. 8 L27 to col. 9 L67).

As per claim 22, Touboul discloses the process wherein the reconfiguration event is a trigger set by configuration module executing in a server on the network, and the trigger is based on an expiration of a predetermined time duration which was initiated at a last reconfiguration event for the one multifunction device (col. 7 L40 to col. 8 L64 and fig. 1 item #1, col. 8 L10-26).

As per claim 23, Touboul discloses the process wherein the reconfiguration event is a trigger set by a configuration module executing in a server on the network (fig. 1 item #1, fig. 5), and the trigger is based on receipt of a request message by the configuration module from the one multifunction network device (col. 8 L44 to col. 9 L67 and col. 7 L40-49).

As per claim 24, Touboul discloses the process wherein the request message comprises a request by the one multifunction network device for the addition of at least one function module to the storage memory and to the program memory in the one multifunction network device (col. 7 L40-49 and col. 8 L44 to col. 9 L67: please note the process of installing and downloading is same as the process of adding the function modules).

As per claim 25, Touboul discloses the process wherein the reconfiguration event is a trigger set by configuration module executing in a server on the network (col. 14 L56-60 and fig. 1 item #1, 8), and the trigger is based on discovery by the configuration module of the one multifunction network device (col. 12 L22-35 and fig. 5).

As per claim 27, Touboul discloses the process wherein, in case that the reconfiguration command is an addition command to add a designated function module to the storage memory and the program memory of the one multifunction network device, the designated function

module is downloaded to the one multifunction network device (col. 8 L10 to col. 9 L67 and col. 10 L40-49).

As per claim 28, Touboul discloses the process wherein the designated function module is downloaded to the one multifunction network device from a component repository module in response to an instruction from a configuration module (col. 10 L40-49 and col. 15 L9-20).

As per claim 29, Touboul discloses the process wherein the component repository module and the configuration module are executing on a same computing device on the network (fig. 5 item #74, 76, 78 and item #84, fig. 1 #1 and fig. 2, col. 15 L3-20).

As per claim 30, Touboul discloses a system wherein the component repository module and configuration module are executing on separate respective devices on the network (fig. 1 to fig. 3 and fig. 12).

As per claim 31, Touboul discloses the process wherein the component repository module executes in a server on the network (fig. 5 item #74, 76, 78 and col. 15 L10-20 and fig. 1).

As per claim 32, Touboul discloses the process wherein version identification (an identification) of the designated function module is provided in the instruction from the configuration module to the component repository module (col. 10 L40-49: the process inherently identifies the files or drivers using identifier and downloads and/or copies them).

As per claim 35, Touboul discloses the process wherein the designated function module is downloaded to the one multifunction network device from a component repository module in response to an instruction from the one multifunction network device (col. 10 L40-49, col. 9 L15-67 and col. 7 L40-49).

As per claim 36, Touboul discloses the process wherein a version identification of the designated function module is provided in the instruction from the one multifunction network device to the component repository module (col. 7 L40-49).

As per claims 14, 26, 53, 55 and 57, they do not teach or further define over the limitations in claims 1-4, 8, 10-11, 13, 17, 22-25, 27-32 and 35-36. Therefore claims 14 and 26 are rejected for the same reasons as set forth in claims 1-4, 8, 10-11, 13, 17, 22-25, 27-32 and 35-36.

3. Claims 5-7, 9, 12, 15-16, 18-21, 37-39 and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Touboul (U. S. Patent No. 6,125,390) in view of Hirai (US 6,546,484 B2), further in view of Sato (US 2003/0033395 A1), and further in view of Burgess et al. (hereinafter Burgess, U. S. Patent No. 5,696,701).

As per claim 5, Touboul does not disclose the process wherein the detection by the configuration module of an increased demand for use of the storage memory and of the program memory is based on resource information data which is passed from the one multifunction network device to the configuration module.

Burgess, from the same field of endeavor discloses the process of detecting high usage of the storage memory and program memory based on resource information data passed from a monitored computer (a network device) to the configurator module (col. 5 L1-51, col. 9 L55-65).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Burgess as stated above with Touboul in

order to detect of an increased demand for use of the memory which is based on resource information data from the monitored computer.

One of ordinary skilled in the art would have been motivated because monitoring of this performance information would have allowed a network administrator to take action before the halt of the operating system of the monitored computer, i.e. halt of the computer system (Burgess, col. 8 L3-11).

As per claim 6, Touboul does not disclose the process wherein the resource information data includes a current utilized amount of the storage memory and a current utilized amount of the program memory of the one multifunction network device.

Burgess discloses the process wherein the resource information data includes a current utilized amount of the storage memory and a current amount of the program memory of the monitored computer (col. 7 L4-67).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Burgess as stated above with Touboul in order to pass the utilized amount of the memory.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 5.

As per claim 7, Touboul discloses the process wherein the resource information data is passed in an SNMP message from the one multifunction network device to the configuration module (fig. 1, fig. 9 item #174 and col. 10 L19-29, col. 2 L30-56).

As per claim 9, Touboul does not disclose the process wherein the request message comprises a request by multifunction network device for an increased useable capacity of the storage memory and of the program memory in the multifunction device.

Burgess discloses the process of sending a message by the monitored computer for an increased useable capacity of the storage device and of the program memory in the monitored computer (col. 6 L40 to col. 7 L67 and col. 8 L56-65).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Burgess as stated above with Touboul in order to send a request message for an increased useable capacity of the storage memory and of the program memory in the computer.

One of ordinary skilled in the art would have been motivated because it would have provided a mechanism for accommodating the operating system demands (Burgess, col. 7 L37-47).

As per claim 12, Touboul does not explicitly disclose the process wherein the configuration module monitors the overall demand for execution of each of the plurality of functions by monitoring a plurality of function request messages which are sent to the plurality of multifunction devices.

Burgess discloses the process of monitoring the percentage of time that a processor is busy executing a request, the rate at which the operating system switches between threads and the number of times that the operating system is not able to assign a work item to service a request (col. 7 L13-65). That Burgess monitors the plurality of requests and generates the alerts based on the monitoring process.

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Burgess in order to monitor plurality of function request messages.

One of ordinary skilled in the art would have been motivated because of the same reasons as asset forth in claims 5 and 9.

As per claim 15, Touboul does not disclose the process wherein the multifunction network device is reconfigured in accordance by allocating a designated amount of program memory for use by the function modules.

Burgess, from the same field of endeavor, discloses the process of increasing the program memory for use by the program modules (i.e. it increases by reallocating memory from somewhere to the device, col. 7 L37-47).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Burgess as stated above with Touboul, in order to reallocate the program memory for use by the network device.

One of ordinary skilled in the art would have been motivated because of the same reasons as asset forth in claims 5 and 9.

As per claim 16, Touboul does not explicitly disclose the process wherein multifunction network device is reconfigured in accordance with the reconfiguration command by instructing an operating system in the one multifunction network device to respond only to a function request message which requests execution of a designated function module.

Burgess discloses the process of instructing an operating system to provide more work items to service requests when operating system is not able to assign a work item (col. 7 L60 to col. 8 L2).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Burgess to instruct operating system to respond only to a designated function request, since Burgess discloses the process of instructing the operating system to perform a task.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 5 and 9.

As per claim 38, Touboul discloses the process wherein the reconfiguration command is sent internally within the one multifunction network device which is reconfigured in accordance with the reconfiguration command (col. 5 L42-53).

However Touboul does not disclose the command of deleting all of the function modules except one designated function module from the storage and program memory.

Hirai discloses the process of program module management. Hirai further teaches the process of deleting all of the program modules (functional modules) except for the designated function module from the program memory of the network device (col. 4 L18-36, L46-65, col. 6 L23-49, col. 7 L20-33, col. 7 L56 to col. 8 L22).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Burgess, and further in view of Hirai, in order to include a command to delete all of the function modules except for the designated function module from the storage memory and program memory of the multifunction network

device, since Hirai teaches the process of deleting all of the program modules except for the program modules stationed permanently.

One of ordinary skilled in the art would have been motivated because it would have improved the performance of the multifunction network device by managing and utilizing the capacity of the program modules and the capacity of the program memory more efficiently (Hirai, col. 3 L25-35, col. 2 L21-32).

As per claim 39, neither of the references disclose the process wherein the deleted function modules are sent from the multifunction network device to a component repository on the network, and wherein the deleted function modules are subsequently retrieved by multifunction network device from the component repository and added to the storage memory and to the program memory, But the process of deleting, sending, retrieving and adding function modules are well known and obvious in the relevant art. Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Burgess and Hirai, in order to retrieve the deleted functional modules from the repository and add to the storage memory and to the program memory. One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 38.

As per claim 44, Touboul does not explicitly disclose the process wherein one multifunction network device is reconfigured in accordance with the reconfiguration command by prohibiting the use of program memory for at least one the function module.

Burgess discloses the process wherein a monitored computer (a multifunction network device) is instructed to cease executing extraneous processes (read as prohibiting the use of program memory, col. 7 L49-60).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Burgess as stated above with Touboul in order to prohibit the use of program memory.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 5 and 9.

As per claim 45, Touboul does not explicitly disclose the process wherein one multifunction network device is reconfigured in accordance with the reconfiguration command by prohibiting the use of program memory for all of the function modules except a designated function module.

Burgess discloses the process wherein a monitored computer (a multifunction network device) is instructed to cease executing extraneous processes (read as prohibiting the use of program memory, col. 7 L49-60).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Burgess in order to prohibit the use of program memory for all of the function modules except a designated function module.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 44.

As per claims 18-21 and 37, they do not teach or further define over the limitations in claims 5-7, 9, 12, 15-16, 38-39 and 44-45. Therefore claims 18-21 and 37 are rejected for the same reasons as set forth in claims 5-7, 9, 12, 15-16, 38-39 and 44-45.

4. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Touboul (U. S. Patent No. 6,125,390) in view of Hirai (US 6,546,484 B2), further in view of Sato (US 2003/0033395 A1), and further in view of Chiles et al (hereinafter Chiles, U. S. Patent No. 6,167,567).

As per claim 33, Touboul's teachings as set forth above still applied. Touboul further discloses a configuration profile that includes attributes such as type of machine, processor type, memory size, etc., associated with a workstation (i.e. preset profile associated with a multifunction device).

However Touboul does not disclose the process wherein the version identification is determined in accordance with a preset profile corresponding to the one multifunction device.

Chiles discloses a system for automatically updating software on a computer in a networked client-server environment (see summary) and Chiles further discloses the process of identifying the updates based on the version numbers of the software (col. 2 L42-56, col. 5 L44-50).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Chiles, in order to include a version numbers of software associated with multifunction device in a configuration file or profile.

One of ordinary skilled in the art would have been motivated because it would have identified the software. It would have also enabled a determination process that would have determined whether the software and/or functional module needs an update or not (Chiles, col. 4 L43-47).

As per claim 34, Touboul discloses the process wherein preset profile corresponding to one network device contains information regarding allowed function modules that can be downloaded to the one multifunction device (col. 15 L3-39).

However Touboul does not disclose the process wherein the preset profiles includes version identification for each of the allowed function modules.

Chiles discloses a system for automatically updating software on a computer in a networked client-server environment (see summary) and Chiles further discloses the process of identifying the updates based on the version numbers of the software (col. 2 L42-56, col. 5 L44-50).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Chiles, in order to include a version numbers of software associated with multifunction device in a configuration file or profile.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 33.

5. Claims 54, 56 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato (US 2003/0033395 A1) in view of Obata (US 2001/0025312 A1), and further in view of Hirai (US 6,546,484 B2).

As per claim 54, Sato explicitly discloses a method for managing/controlling a multifunction network device on a network, wherein the multifunction network device (MFD) includes a network interface for communication on the network, and each multifunction network device further having an image processing apparatus with scanning and printing capabilities controlled by function modules and each MFD having a plurality of hardware resources including a storage memory for storing a plurality of function modules, a program memory to be used by the function modules and a processor for executing the function modules (fig. 1: multifunction devices), said method comprising the steps of:

execution of the plurality of function modules by the MFPs using the hardware resources so as to control the scanning and printing capabilities (pg. 2 [0022-0023]).

However, Sato does not disclose the process of determining whether the hardware resources need to be reallocated based on a status of the hardware resources by the plurality of software modules and the process of deleting at least one software modules and sending the software module over the network so as to secure hard resources in the multifunction network devices to an information processing apparatus on the network when the determining step determines that the hardware resources need to be reallocated and second reconfiguring said MFP over the network in response to a status of use of the hardware resources after the first reconfiguring step and executing the retrieved module.

Obata explicitly discloses the process of monitoring whether the hardware resources need to be allocated and/or reallocated based on the status of use of the hardware resources by the plurality of software modules (fig. 2-4, fig. 6, fig. 9, pg. 1 [0005-0010]).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Sato in view of Obata in order determine whether the hardware resources need to be reallocated.

One of ordinary skilled in the art would have been motivated because it would have enabled automatically fluctuating a processing capability of the system (Obata, pg. 1 [0009]).

However, Sato in view of Obata does not disclose the process of deleting at least one software modules and sending the software module (i.e. function module) over the network so as to secure hard resources in the multifunction network devices to an information processing apparatus on the network when the determining step determines that the hardware resources need to be reallocated.

Hirai explicitly discloses the process of deleting and/or downloading, i.e. retrieving, the software modules based on the usage of the hardware resources over the network and executing the retrieved module (fig. 8, fig. 12, col. 3 L36 to col. 4 L65, col. 7 L20-33: deleting unnecessary program files and/or downloading only the specific software module, note that deleting the file involves removing the software files and storing them into temporary storage, fig. 5, col. 9 L56 to col. 10 L60: management program running on external ROM).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Sato in view of Obata and further in view Hirai in order to

delete the software modules based on the usage of the hardware resources of the network device and in response to determining whether the hardware resources need to be reallocated.

One of ordinary skilled in the art would have been motivated because it would have improved the performance of the multifunction network device by managing and utilizing the capacity of the program modules and the capacity of the program memory more efficiently (Hirai, col. 3 L25-35, col. 2 L21-32).

As per claims 56 and 58, they do not teach or further define over the limitations in claim 54. Therefore claims 56 and 58 are rejected for the same reasons as set forth in claim 54.

Additional References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Schacht et al., US 2003/0051011 A1: System and Method for installing printer driver software.

Examiner's Remarks

Touboul discloses the process and apparatus for monitoring and managing the network devices and/or resource utilization, however Touboul's system is limited to management of the multifunction network devices such as workstations.

Hirai explicitly discloses deleting and loading the software modules in response to the memory usage of a network device.

Logically, the combination of Touboul and Hirai discloses the invention as in the present application; however the combination is limited to management of the network devices such as workstations.

But, applying these teachings to a networked system comprising plurality of multifunction network devices, i.e. imaging devices, would be considered obvious because network of plurality of MFPS or imaging devices are well known in the art, as evidenced in Sato.

Thus, it would have been obvious to a person of ordinary skilled in the art to modify these teachings because it would have offered increased flexibility in handling of problems that occur at the multifunction network device and/or network devices due to various reasons (Touboul, col. 1 L55-65).

Conclusion

The teachings of the prior art should not be restricted and/or limited to the citations by columns and line numbers, as specified in the rejection. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in its entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

In the case of amendments, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and support, for ascertaining the metes and bounds of the claimed invention.

THIS ACTION IS MADE NON-FINAL.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is (571)272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kamal Divecha
Art Unit 2151

/Bunjob Jaroenchonwanit/
Supervisory Patent Examiner, Art Unit 2152